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Identification of Students' Honesty Levels by Online Proctored Examinations in Higher Education Environment

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Abstract: This study aimed to identify the honesty level of students in online exams assisted by supervisory robots on the autoproctor application as an effort to improve the quality of online learning. The sample of this study were 34 students majoring in Physics Education FKIP USK who were selected randomly. Data were collected from test results using a google form embedded the autoproctor to detect student honesty during online exams and student response results from an honesty questionnaire based on four indicators developed by Ashton, M. C, et.al namely: sincerity, fairness, greed avoidance, and modesty. The data were analyzed using quantitative descriptive analysis. This study shows the honesty level of students recorded by the application is medium level and is supported by the results of honesty questionnaire responses. The response results show the level of honesty is in the very high to the medium range, while the test results using the autoproctor are in the very high to the very low range. There were some students who detected high honesty levels based on the results of the questionnaire responses but were detected very low on the autoproctor application. In applications, it was found evidence of fraud by students but they were not true after further observation, so it was necessary to inform the rules that must be obeyed using this application before the test. The findings of this study could be the basis for sustainable professional development using the autoproctor application in detecting student honesty in online exams.

Keywords: Honesty level; Online exam; Autoproctor

Introduction

Success is something that everyone wants to achieve in life. Everyone is competing in various ways to achieve success in life, one of which is by carrying out education to the highest level. Many people think that in taking the education level, the most important thing is to get a high-grade report card or GPA to achieve success in the future. It turns out that IQ, report cards/GPA are not the main factors that cause a person to achieve success. The report card/GPA is ranked 30th as a success factor, while rankings 1 to 5 include: honesty, discipline, sociability, companion support, and hard work (Thomas, 2010).

This shows that the achievement of students' final grades is also one of the success factors, but the most important factor is honesty. A high final score will mean nothing if it is not obtained with honesty. The unemployment rate in Indonesia is very high, even though they have completed the undergraduate and even postgraduate education levels with high GPA achievements (Badan Pusat Statistik, 2021). There are 6.97% of unemployed in Indonesia are graduates of S1 and S2. This figure is quite alarming and needs attention to find a solution to the root cause of this happening because this percentage is much larger than the unemployment rate for elementary school graduates and below which is only 3.13% (Badan Pusat Statistik, 2021). Education currently still emphasizes the final score as the success of students regardless of other aspects such as honesty, discipline, and hard work from students to learn so that many graduates have high scores without any skills due to lack of honesty during the learning process. A high final score is the goal of students regardless of the process to get it through fraudulent means such as plagiarizing part or even all of the work of others. Character education is the key from

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an early age to build students' honest attitudes in studying until exams (Dhiu and Bate, 2018).

The online learning process during the COVID-19 pandemic has made it increasingly difficult for lecturers to supervise students studying directly because learning is carried out in different places. The honesty of students in answering exam questions given by lecturers cannot be guaranteed 100% of the answers themselves because there is no direct supervision like exams in general in the pre-covid-19 period at school (Pangestu, 2021). This is an obstacle for lecturers to provide objective scores from student exam results. Lecturers tend to give scores according to the final result without knowing the process of students taking the exam, whether it is done alone or with the help of others. If this continues, the aspect of honesty in students will not develop. Students will tend to prioritize the final result rather than the process even though they have to act fraudulently/dishonestly. The impact will be more and more graduates from education in Indonesia who have high grades without good character.

Efforts to overcome this, the aspect of honesty is an important thing that must be applied in every learning process, especially exams. In the current new normal era, the Blended Learning approach is very commonly used by educators in the learning process (Herliana et al., 2021). Blended Learning Approach is currently being implemented in conducting online exams, so it is necessary to have an exam supervisor application that is able to detect the level of honesty of students during the exam (Siahaan and Aliyuddien, 2020). With online proctored examinations, it is hoped that cheating in exams can be minimized and has an impact on the level of honesty of each student. Students cannot freely commit fraud and can indirectly form honest characters in students so that students become more hardworking and disciplined in learning (Dendir & Maxwell, 2020). With the formation of these characters, it is hoped that graduates from education in Indonesia can achieve success in the future. Therefore, the use of supervisory applications in online exams needs to be tested for effectiveness in minimizing cheating that may be done by students while carrying out online exams in the hope of forming an honest character which has an impact on increasing the quality of education in Indonesia, especially Aceh Province.

Method

This study aims to identify the level of honesty of students in online proctored exams using autoproctor application as an effort to improve the quality of online learning in this new normal era. The sample of this study amounted to 34 students majoring in Physics Education FKIP USK who were selected randomly. Data were collected from test results using a google form embedded in the autoproctor application to detect student honesty during online exams. In addition, complementary data was also collected in the form of student responses from an honesty questionnaire based on 4 (four) indicators developed by (Ashton et al., 2014), namely: sincerity, fairness, greed avoidance, and modesty. The grid of student honesty questionnaire instruments can be seen in the Table 1.

Table 1. The grid of student honesty questionnaire instruments

Aspect	Indicator	Statement Indicator	Number of Items
Sincerity	tendency to be sincere in interpersonal relationships	flatter others or pretend to like them to get help	1
		don't want to manipulate other people.	2
Fairness	tendency to avoid fraud and corruption	willing to gain advantage by cheating or stealing	1
		unwilling to take advantage of other individuals or society in general.	3
Greed Avoidance	a tendency to be disinterested in possessing luxurious wealth, luxury goods, and signs of high social status. low wants to enjoy and display wealth and privileges	want to enjoy and display wealth and privileges	1
		not specifically motivated by considerations of monetary or social status.	4
Modesty	tendency to be simple	consider themselves superior and entitled to privileges that no one else has	1
		see themselves as ordinary people without demanding special treatment	2
Total			15

The data that has been collected was analyzed using quantitative descriptive analysis using the Formula 1.

$$P = \frac{Total\ score\ per\ item}{Maximum\ score} \times 100\ \% \quad (1)$$

Furthermore, a recapitulation of the percentage of respondents' answers about the level of honesty possessed by each individual is carried out. Then the percentage results are compared with the interpretation criteria for the level of honesty to find out the category

of the measured percentage results by referring to the following criteria Table 2.

Table 2. Honesty Level Interpretation

Percentage Result	Criteria
86-100	Very high
76-85	High
60-75	Moderate
55-59	Low
≤54	Very low

The results of the interpretation of students' honesty levels from this questionnaire were compared with the test results obtained from the Autoproctor application. Then it is analyzed based on recorded evidence from the Autoproctor application in the form of photos, voice recordings, and screenshots other than the test page.

Result and Discussion

From the research results obtained using the autoproctor application, it was detected that the honesty of students during the online exam was 64.9% or quite honest. If analyzed based on the results of the honesty questionnaire responses that were filled in directly by students, the student's honesty level was detected at 74.6% or quite honest. The results of detecting students' honesty levels in detail are presented in the Table 3.

The percentage of honesty questionnaire responses has a higher percentage than the honesty level of the test results using the autoproctor application. This is because in filling out the honesty questionnaire, students assess themselves so that they can manipulate the real situation. However, the level of honesty obtained from the detection results of the autoproctor application is based on recording faces, voices, and screenshots when opening other windows from the test page so that the recording results from this application cannot be manipulated by students. Comparison of students' honesty levels based on test results using the Proctor application and honesty questionnaire responses can be seen in the Figure1.

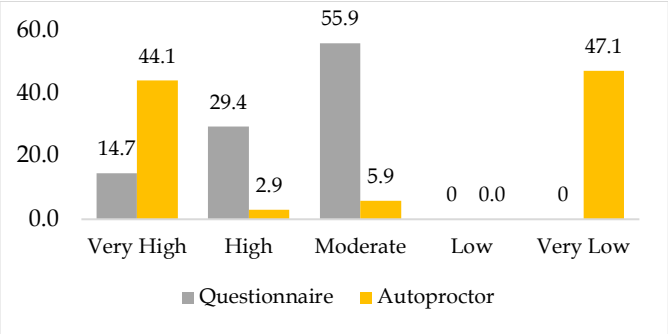

Figure 1. Comparison Graph of Student Honesty Levels based on the results of questionnaire responses and test results using the autoproctor application

Table 3. The percentage of honesty level of each student from the results of the questionnaire response and the autoproctor application

Honesty Questionnaire		Autoproctor Application	
%	Criteria	%	Criteria
65.3	Moderate	98	Very High
73.3	Moderate	98	Very High
70.7	Moderate	97	Very High
74.7	Moderate	98	Very High
62.7	Moderate	98	Very High
89.3	Very High	99	Very High
69.3	Moderate	76	High
62.7	Moderate	45	Very low
69.3	Moderate	42	Very low
76.0	High	28.9	Very low
81.3	High	0	Very low
80.0	High	60	Moderate
73.3	Moderate	98	Very High
62.7	Moderate	33	Very low
89.3	Very High	35	Very low
80.0	High	32	Very low
69.3	Moderate	98	Very High
69.3	Moderate	60	Moderate
82.7	High	35	Very low
69.3	Moderate	99	Very High
86.7	Very High	42	Very low
78.7	High	98	Very High
89.3	Very High	35	Very low
78.7	High	98	Very High
64.0	Moderate	33	Very low
69.3	Moderate	42	Very low
89.3	Very High	99	Very High
81.3	High	34	Very low
72.0	Moderate	98	Very High
65.3	Moderate	35	Very low
69.3	Moderate	98	Very High
78.7	High	32	Very low
68.0	Moderate	34	Very low
76.0	High	100	Very High
74.6	Moderate	64.9	Moderate

The Figure 1 shows that none of the students admitted that they were dishonest, but from the test results using the autoproctor application, 47.1% of students were still classified as dishonest while doing the test. This is indicated by the recording results during the 20-30 minute test for each student. During the exam, in general, students who are indicated to be dishonest turn their faces away from the camera, so that they are not detected by their laptop or cellphone camera. This shows that students carry out other activities during the exam, for example looking at other books to find answers so that the supervisory system detects fraud committed by students (Jia et al., 2021).

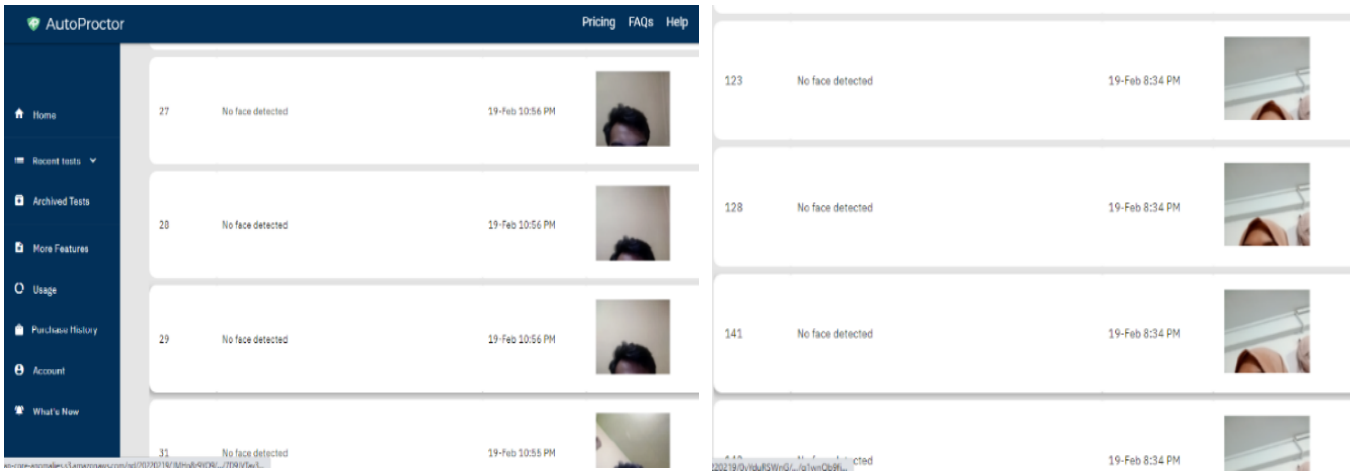

Figure 2. Faces not detected during the test

This can also happen because students are counting using other books so they have to bow their heads. However, this autoproctor application still detects that cheating occurs during the exam if the face does not focus on the camera. Several studies inform the process of improving students' honesty levels after using the autoproctor application as an online exam supervisor (Alessio et al., 2017).

In addition, the application also detects voices from the student environment who are carrying out tests so that the application is indicated to be dishonest. Even though the recorded sound is generally the noise from family/friends or passing vehicles, considering that not all students take the exam in a quiet place. Therefore, the implementation of the exam using a supervisory system really requires the cooperation of students with their environment in order to get accurate detection results (Lee and Fanguy, 2022).

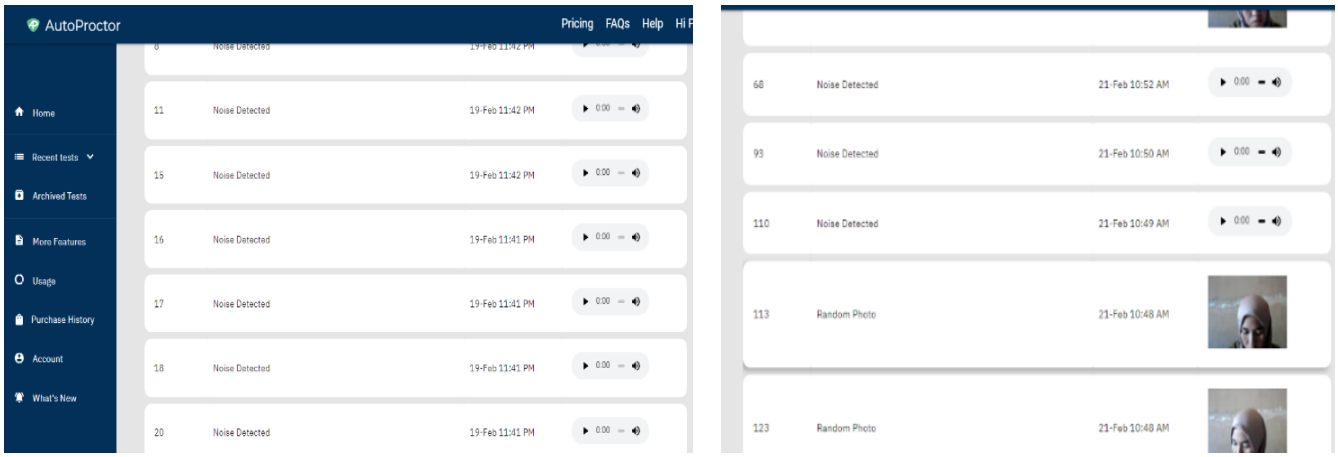

Figure 3. Voice recording detected during the test

However, not a few also recorded the voices of students who were discussing with family/friends next to them to complete the exam questions given. This is certainly a fraud committed by students during the exam. Academic dishonesty has become a serious problem at institutions of higher learning (Carpenter et al., 2006). This can occur due to the habit of students carrying out online exams without supervision and considering the rules made by teachers/lecturers during online exams are only threats (Rocha et al., 2020; Dyer., et al., 2020) so it is necessary to provide evidence of cheating and sanctions for students who violate so as not to endanger the credibility of learning. online in the future (Jaramillo-Morillo et al., 2020). Unfortunately, this application is still unable to distinguish the voice of someone who is discussing or just the sound of a door opening, a vehicle passing, and so on so that the fraud detected by this application from the sound recording evidence is still biased and its validity cannot be ascertained.

Record evidence of student cheating indications during the next online exam is a screenshot of opening a new window other than the test window. In general, the screenshots obtained are when students see the final exam scores which will automatically open a new window.

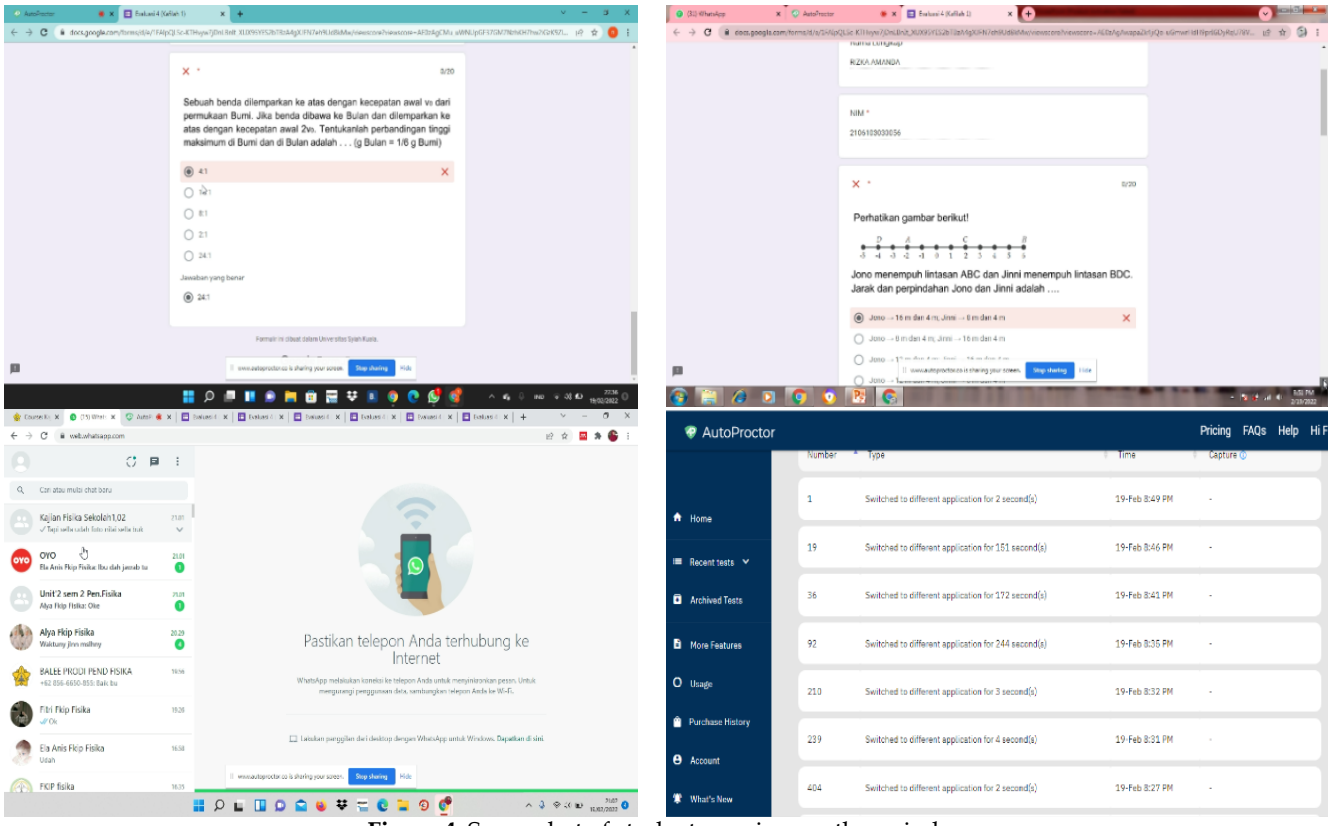

Figure 4. Screenshot of student opening another window

This is recorded so that it is indicated that students are cheating, even though that is not what is being done. These results become invalid if they are not analyzed properly so online supervision can have a negative impact on students' trust in their teachers (Indi et al., 2021). However, there are also students who open a new window to find test answers, namely by asking other friends via WhatsApp web. This is what students should not do, so it is true if the application indicates that this student is not being honest when carrying out the test. This application detects students who open other windows for a long time and often do so that the percentage of honesty is lower than students who open other windows only once to see the final score and answer feedback so that the detection of honesty from the screenshot evidence of this other window is quite valid.

Based on the recorded evidence of the autoproctor application above, there are still many possibilities for students who did not commit fraud but were detected dishonest in this application so a percentage of 47.1% was obtained. Therefore, the use of this application as a student fraud detector during online exams must be informed in advance to students so as not to look away during the exam and choose a quiet place so that the recording results of the application can produce an accurate percentage. This means that there must be clear procedures in the implementation of using this application and students must already understand how to use this application (Hussein et al., 2020) because online teaching and learning imply knowledge of specific pedagogical content knowledge (PCK), mainly related to designing and organizing for a better learning experience and creating a distinctive learning environment, with the help of digital technologies (Rapanta et al., 2020). The continuous use of this application can increase students' honesty levels and improve the quality of online learning in this covid-19 era (Raman et al., 2021), because students feel monitored and will have anxiety if they cheat during exams (Gudiño Paredes et al., 2021).

Conclusion

This study shows that the level of honesty of students while carrying out online exams is moderate level. But the autoproctor app can't measure accurately based on the percentage generated. The teacher/lecturer must make further observations by correcting the results of the fraud indication recorded by the application. From the results of this study, there are several possibilities that cause this application to be less accurate in measuring the honesty level of students, including (1) the record sound of the environment around students during exams; (2) the record students' faces not detected the camera during the exam because they are working on questions on other papers; (3) screen capture results other than the exam page even though the final exam

score page opens automatically after the exam. The results of this study can be used as a basis for information for teachers/lecturers, and education practitioners in order to develop the use of this application to shape the honest character of students in order to improve the quality of online learning in this new normal era.

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